Factor a Perfect Square Trinomial and a Difference of Squares

Date: _____

A. Difference of Squares

To factor a "difference of squares' question, first recognize it is a difference of squares type by noticing it has 2 terms, both are perfect squares that can be square rooted, and there is always a minus sign between the two terms.

RULE: $a^2 - b^2 = (a + b)(a - b)$ *** square root both terms, write twice, once with a plus sign and once with a minus sign.**

EX: A. $x^2 - 25$ **B.** $81x^2 - 16y^2$

C. $2y^4 - 32z^2$

B. Perfect Square Trinomials

To factor a "perfect square" question, first recognize it is a perfect square type by noticing it is a trinomial where the first and third terms are perfect squares that can be square rooted and the middle term is twice the product of these two square roots.

EX: $4x^2 + 12x + 9$

RULE: $a^2 + 2ab + b^2 = (a + b)^2$ **or** $a^2 - 2ab + b^2 = (a - b)^2$

***square root the first and the third term and check the middle term for the sign.**

EX: Factor the following

A. $121x^2 + 110x + 25$ **B.** $36x^2 - 84xy + 49y^2$

C. $18x^2 - 60x + 50$